TRANSLATION PATENT COOPERATION TREATY POT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| Applicant's or agent's file reference 04R00893 | | | eference | FOR FURTHER A | CTION | See Form PCT/IPEA/416 | | | |
|--|---|--------------|-------------------------|---|--------------------------|---|--|--|--|
| International application No. | | | 0. | International filing dat | e (day/month/year) | Priority date (day/month/year) | | | |
| PCT/JP2004/017159 | | | | 18.11.200 | 4 | 08.01.2004 | | | |
| Internation | onal Pat | ent Classif | ication (IPC) or natio | onal classification and I | PC | | | | |
| G02F1/13357 (2006.01), F21S2/00(2006.01), F21Y103/025(2006.01) | | | | | | | | | |
| Applicant SHARP KABUSHIKI KAISHA | | | | | | | | | |
| 1. | | - | | ninary examination rep e applicant according to | • | International Preliminary Examining Authority | | | |
| 2. | This R | EPORT co | onsists of a total of | 8 | g this cover sheet. | | | | |
| 3. | This re | port is also | accompanied by Al | NNEXES, comprising: | | | | | |
| | a. 🔀 | (sent | to the applicant and | to the International Bui | reau) a total of 2 | sheets, as follows: | | | |
| | sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). | | | | | | | | |
| | sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. | | | | | | | | |
| | b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) | | | | | | | | |
| | | | | | | | | | |
| | , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). | | | | | | | | |
| 4. | This re | port conta | ins indications relatin | ng to the following item | s: | | | | |
| | \boxtimes | Box No. | I Basis of the | report | | | | | |
| Box No. II Priority | | | II Priority | | | | | | |
| Box No. III Non-establishi | | | III Non-establis | ment of opinion with regard to novelty, inventive step and industrial applicability | | | | | |
| Box No. IV Lack of unity | | | IV Lack of unit | of invention | | | | | |
| | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | |
| | Ш | Box No. | VI Certain docu | uments cited | | | | | |
| Box No. VII Certain defects in the international application | | | | | | | | | |
| Box No. VIII Certain observations on the international application | | | | | | | | | |
| Date of submission of the demand | | | | | Date of completion of th | is report | | | |
| | | | | | | | | | |
| Name and mailing address of the IPEA/JP | | | | | Authorized officer | | | | |
| Essainally Ma | | | | | Talanhona No | | | | |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/017159

| Box | No. I | Basis of the report | | | | | |
|-----|---|---|--------------------------------------|--------------------------------------|--|--|--|
| 1. | | h regard to the language, this report is based on the internation cated under this item. | nal application in the language in w | which it was filed, unless otherwise | | | |
| | This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of: international search (Rule 12.3 and 23.1(b)) publication of the international application (Rule 12.4) international preliminary examination (Rule 55.2 and/or 55.3) | | | | | | |
| 2. | 2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report): the international application as originally filed/furnished the description: | | | | | | |
| | | pages | | | | | |
| | | pages* | _ | _ | | | |
| | | pages* | received by this Authority on _ | | | | |
| | M | the claims: | | | | | |
| | | nos. <u>3,5-6,8-15</u> | | as originally filed/furnished | | | |
| | | nos.* | | | | | |
| | | nos.* <u>1-2</u> | _ | | | | |
| | | nos.* | received by this Authority on _ | | | | |
| | | the drawings: | | | | | |
| | | sheets <u>fig. 1-11</u> | | as originally filed/furnished | | | |
| | | sheets* | · - | | | | |
| | | sheets* | received by this Authority on _ | | | | |
| | | a sequence listing and/or any related table(s) – see Suppleme | ental Box Relating to Sequence Lis | sting. | | | |
| 3. | M | The amendments have resulted in the cancellation of: | | | | | |
| | | | | | | | |
| | | the claims, nos. 4,7 | | | | | |
| | | the drawings, sheets/figs | | | | | |
| | | the sequence listing (specify): | | | | | |
| | | any table(s) related to sequence listing (specify): | | | | | |
| 4. | | This report has been established as if (some of) the amenda they have been considered to go beyond the disclosure as file | | | | | |
| | | the description, pages | | | | | |
| | | the claims, nos. | | | | | |
| | | the drawings, sheets/figs | | | | | |
| | | the sequence listing (specify): | | | | | |
| | any table(s) related to sequence listing (specify): | | | | | | |
| * | If ite | tem 4 applies, some or all of those sheets may be marked "superseded." | | | | | |

International application No.
PCT/JP2004/017159

| Box | | nt under Article 35(2) with regard to novelty, inventive step or industrial applicability; anations supporting such statement | |
|-------|----------------------------------|---|------|
| 1. | Statement | | |
| | Novelty (N) | Claims 1-3, 5-6, 8-15 | YES |
| | | Claims | NO |
| | Inventive step (IS) | Claims | YES |
| • • • | | Claims 1-3, 5-6, 8-15 | |
| | Industrial applicability (IA) | Claims 1-3, 5-6, 8-15 | |
| | | Claims | - NO |
| | | | |
| 2. | Citations and explanations (Rule | | |
| | | rofilm of the specification and drawings | |
| | anr | nexed to the request of Japanese Utility | |
| | Мос | del Application No. 140716/1988 (Laid-open | |
| | No | . 61020/1990) (Toshiba Corp.), 07 May | |
| | 199 | 90, page 14, lines 1 to 6; page 15, line | |
| | 17 | to page 16, line 8; page 16, line 17 to | |
| | pag | ge 17, line 5; and fig. 5, 7 and 8 | |
| | (Fa | amily: none) | |
| | Document 2: JP | 6-273761 A (Sony Corp.), 30 September | |
| | 199 | 94, paragraphs [0024] to [0027] and fig. 2 | |
| | (Fa | amily: none) | |
| | Document 3: JP | 61-54150 A (NEC Home Electronics Ltd.), 18 | |
| | Maı | rch 1986, page 3, upper right column, | |
| | lir | nes 13 to 20 and fig. 3 (Family: none) | |
| | Document 4: JP | 11-271770 A (Toshiba Corp.), 08 October | |
| | 199 | 99, paragraphs [0012] to [0014] and fig. 2 | |
| | (Fa | amily: none) | |
| | Document 5: JP | 11-295737 A (Casio Computer Co., Ltd.), 29 | |
| | Oct | tober 1999, entire text, all drawings | |
| | (Fa | amily: none) | |
| | Document 6: JP | 2002-109935 A (Sanyo Electric Co., Ltd.), | |
| | 12 | April 2002, paragraph [0024] and fig. 3 & | |
| | | 2002-36905 A1 | |
| | | | |

citations and explanations supporting such statement

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;

Document 7: CD-ROM of the specification and drawings annexed to the request of Japanese Utility Model Application No. 14580/1992 (Laid-open No. 75734/1993) (Fujitsu Ten Ltd.), 15 October 1993, paragraphs [0016] to [0022] and fig. 1 (Family: none)

The inventions set forth in claims 1 to 3 and 14 to 15 do not involve an inventive step in the light of documents 1 and 3, which are cited in the international search report, and document 7, which is newly cited.

Document 1 discloses an illumination device wherein the uniformity of the illumination distribution is improved by covering the curved section of the lamp with a lamp holder in order to block the light that is emitted from the curved section.

A comparison of the invention set forth in claim 1 of the present application and the invention disclosed in document 1 revealed that said inventions differ in that the invention set forth in claim 1 of the present application comprises a plurality of light source lamps and is configured so that the curved sections of the light source lamps are located on the outside of the effective display region, whereas document 1 does not mention the features in question.

Meanwhile, document 3 discloses a backlight for a liquid crystal display device, wherein the meandering sections that connect the straight sections in the glass bulb of the cold cathode discharge tube are arranged so as to protrude beyond the liquid crystal display panel and the reflector.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

With regards to the feature wherein the invention is equipped with a plurality of lamps, document 1 discloses a configuration that employs a W-shaped lamp while document 2 discloses a configuration that employs an S-shaped lamp, and these lamps can be considered to exhibit effects similar to those of configurations that employ a plurality of U-shaped lamps.

Furthermore, liquid crystal display-illuminating devices that are equipped with a plurality of U-shaped lamps and configured so that the curved sections of the lamps are located on the outside of the display region are well known to a person skilled in the art, as disclosed in document 7 for example.

Such being the case, it would have been easy for a person skilled in the art to conceive of configuring the invention that is set forth in claim 1 of the present application by using a plurality of lamps or by configuring so that the curved sections of the lamp, which are covered with a lamp holder, are located on the outside of the effective display region, as disclosed in document 3 or document 7, in the invention disclosed in document 1.

With regards to claims 2 to 3, the meandering sections in the glass bulb of the cold cathode discharge tube disclosed in document 3 can be understood to consist of two or more curved sections and one or more straight sections that are present between said curved sections (refer to fig. 3).

The invention set forth in claims 5 to 6 does not involve an inventive step in the light of documents 1 to 3, which are cited in the international search report,

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

and document 7, which is newly cited.

Document 2 discloses a backlight for a liquid crystal display device, wherein the regions of the diffusion plate which face the U-shaped portions of the fluorescent tube are masked with a black mask by means of a printing technique or the like in order to prevent irregularities in the brightness of the backlight.

The invention set forth in claims 8 to 9 does not involve an inventive step in the light of documents 1 and 3 to 4, which are cited in the international search report, and document 7, which is newly cited.

Document 4 discloses a backlight unit for a liquid crystal display device, wherein one side of the center section of a fluorescent tube that has a squared-off U-shape is covered with a coating film or a piece of tape that is capable of blocking light.

The invention set forth in claims 10 to 11 does not involve an inventive step in the light of documents 1, 3 and 5, which are cited in the international search report, and document 7, which is newly cited.

Document 5 discloses a backlight comprising an L-shaped fluorescent tube, wherein a light absorbing pattern (6b) is provided to the portion of the reflecting sheet in the vicinity of the fluorescent tube by means of a printing technique (paragraph [0006]); therein, document 5 further indicates that the light absorbing pattern (6b) consists of grey dots, and that the pattern may be changed so as to accommodate irregularities in the brightness of the backlight (paragraph [0006]).

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The invention set forth in claim 12 does not involve an inventive step in the light of documents 1 to 3 and 5, which are cited in the international search report, and document 7, which is newly cited.

With regards to claim 12, document 2 discloses a feature wherein a black mask is formed by means of a printing technique, while document 5 discloses a feature wherein a light absorbing pattern is provided by means of a printing technique.

The invention set forth in claim 13 does not involve an inventive step in the light of documents 1 to 6, which are cited in the international search report, and document 7, which is newly cited.

The use of a gradiated dimming treatment is merely a simple design matter that can be configured in an appropriate manner by a person skilled in the art. For example, document 6 discloses a feature wherein a black or neutral grey pattern is printed upon a light blocking sheet that is used in a surface light source device, and the pattern in question is formed so that the light blocking characteristic thereof decreases gradually from the bottom end (i.e., the light source side) of the light blocking sheet towards the top end thereof.

In other words, the inventions set forth in the claims of the present application involve combinations of a plurality of configurations for dimming or blocking the light that is emitted from the curved sections of the light source lamps; however, the abovementioned combinations are merely amalgamations of configurations that are disclosed in the documents that are cited in the

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/017159

| Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | |
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| interr | national | | | | | the | newly | cited |
| docume | ent. | | | | | | | |
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